REMARKS/ARGUMENTS

In the Office Action mailed December 9, 2008 (hereinafter, "Office Action"), claims 1-4, 8-11 and 15-18 stand rejected under 35 U.S.C. § 103. Claims 5-7 and 12-14 were objected to as being dependent upon a rejected claim, but would be allowable if rewritten in independent form.

Upon entry of this amendment, claims 1, 3-8, and 10-20 will be pending. Claims 1, 3, 8, 10, 15, and 19 have been amended. Claims 2 and 9 have been canceled. No new matter has been added.

Applicants respectfully respond to the Office Action.

I.   Claims 1-4, 8-11 and 15-18 Rejected Under 35 U.S.C. § 103

Claims 1-4, 8-11 and 15-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,082,107 to Arvelo in view of U.S. Patent Application Publication No. 2001/0030955 to Lee et al. (hereinafter, "Lee"). Applicants presume that because claims 19 and 20 are substantially similar to claims 1 and 16, that claims 19 and 20 are also rejected for similar reasons under this section.

The factual inquiries relevant in the determination of obviousness are determining the scope and contents of the prior art, ascertaining the differences between the prior art and the claims in issue, resolving the level of ordinary skill in the art, and evaluating evidence of secondary consideration. KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 2007 U.S. LEXIS 4745, at **4-5 (2007) (citing Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18 (1966)). As the Board of Patent Appeals and Interferences has recently confirmed, "obviousness requires a suggestion of all limitations in a claim." In re Wada and Murphy, Appeal 2007-3733 (citing CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003)). Moreover, the analysis in support of an obviousness rejection "should be made explicit." KSR, 2007 U.S. LEXIS 4745, at **37. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Id. (citing In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Applicants respectfully submit that the claims at issue are patentably distinct from the cited references, and that the cited portions of the references fail to teach or suggest all of the subject matter in these claims.

Claim 1, as amended, includes:

> *determining* a first number of installments for transmission of a first subpacket of data;
>
> *determining* a second number of installments for transmission of the first subpacket of data, the second number less than the first number;
>
> *determining* power boost gain factors for the second number of installments, the power boost gain factors satisfying the designated packet error rate;
>
> *power boosting* transmissions of the second number of installments of the first subpacket of data by applying the power boost gain factors; and
>
> *terminating* transmission of the first subpacket of data after the second number of installments.

Claim 1 as presented herein thus clarifies that "transmissions of the second number of installments" are "power boost[ed]," and that the "second number of installments" and the "power boost gain factors" are "determin[ed]" before "applying the power boost gain factors" for the "transmissions."

By contrast, Arvelo states:

> In general, the present invention monitors packet errors in two observation windows. Each window monitors a contiguous stream of packets. The shorter window is used to recognize when the power level is too low. If more than a certain threshold of packet errors are observed in a short period of time, the power level is increased. That is, the short window provides rapid increases in power to quickly respond to low signal quality and detrimental changes in the channel characteristics.

Arvelo, col. 3, lines 34-42.

Thus, Arvelo teaches "monitor[ing] packet errors" that are *already transmitted*, and "[i]f more than a certain threshold of packet errors are observed in a short period of time, the power level is increased." (Id.) Furthermore, in relation to Figure 1, Arvelo states:

> FIG. 1 demonstrates one embodiment of the present invention. In block 110, counters and registers are reset. In block 120, the process counts the number of packet errors in the short observation window and compares that number of packets to a first threshold. If the number of packet errors is greater than or equal to the first threshold, the packet error rate is higher than desired, indicating that the transmission power level is too low. In which case, the process proceeds to block 170 to increase the power. From block 170, the process returns to block 110 to reset and start over again.
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> *Arvelo*, col. 3, line 63 to col. 4, line 5.

That is, *after packets are transmitted*, if "the number of packet errors is greater than or equal to the first threshold, the packet error rate is higher than desired . . . the process proceeds to block 170 to *[then] increase the power*." (Id, emphasis added.)

Reiterating this, Arvelo states:

> Transmitter 310 counts the NACK messages 340 and [then] performs a power control operation such as the one discussed above with respect to FIG. 1.
>
> *Arvelo*, col. 5, lines 37-39.

Similarly, Arvelo teaches here that the transmitter "*counts the NACK messages* 340" and then "*performs a power control operation*." (Id, emphasis added.)

Thus, Arvelo fails to teach or suggest at least determining a first number of installments for transmission of a first subpacket of data; determining a second number of installments for transmission of the first subpacket of data, the second number less than the first number; determining power boost gain factors for the second number of installments, the power boost gain factors satisfying the designated packet error rate; and power boosting transmissions of the second number of installments of the first subpacket of data by applying the power boost gain factors, as recited in claim 1 as presented herein.

It is conceded in the Office Action that "Arvelo does not clearly teach ... the second number is less than the first number, ... the second number is selected to satisfy the designated packet error rate; and terminating transmission of the first subpacket ... after the second number of installments." See *Office Action*, page 6, first paragraph.

Lee is cited in the Office Action for allegedly disclosing the aforementioned subject matter. However, even assuming that Lee discloses the second number is less than the first number, ... the second number is selected to satisfy the designated packet error rate; and terminating transmission of the first subpacket ... after the second number of installments, Lee fails to teach or suggest cure the deficiencies of Arvelo. Thus, Arvelo and Lee, individually or in combination, fail to teach or suggest all of the limitations of claim 1 as presented herein.

Accordingly, it is submitted that the rejection of claim 1 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Claim 2 has been canceled. Claims 3-4 depend from claim 1. Accordingly, it is submitted that the rejection of claims 2-4 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Claims 8, 15 and 19 have been amended to include subject matter similar to the subject matter of claim 1. Accordingly, it is submitted that the rejection of claims 8, 15 and 19 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Claim 9 has been canceled. Claims 10-11 depend from claim 8. Accordingly, it is submitted that the rejection of claims 9-11 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Regarding claim 16, Applicants respectfully submit that claim 16 is patentably distinct from the cited references, and that the cited references do not teach or suggest the limitations of claim 16.

Claim 16 recites:

> *transmitting* a first negative acknowledgement message for a last installment of a first subpacket, the first negative acknowledgement transmitted at a first time slot; and
>
> *transmitting* a second negative acknowledgement message for the last installment of the first subpacket, the second negative acknowledgement transmitted at a second time slot, wherein the second time slot is designated for the first subpacket of the next packet.

By contrast, Arvelo states:

> For each CRC failure, receiver 320 sends a negative acknowledgement (NACK) message 340 to the transmitter 310 to let the transmitter 310 know that a particular packet of data had an error. NACK messages are commonly used so that the transmitter will know to re-transmit the data in the packet that had the error.
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> *Arvelo*, col. 5, lines 31-36.

However, Arvelo fails to teach or suggest "transmitting a first negative acknowledgement message for a last installment of a first subpacket, the first negative acknowledgement transmitted at a first time slot" as recited in claim 16. Furthermore, Arvelo fails to teach or suggest "transmitting a second negative acknowledgement message for the last installment of the first subpacket, the second negative acknowledgement transmitted at a second time slot, wherein the second time slot is designated for the first subpacket of the next packet."

Arvelo also "counts the number of NACK messages", as described in the following:

> At any instant in time, adder 510 counts the number of NACK messages, or packet errors, in the most recent set of N_{short} packets and provides the number of packet errors to comparator 530. The threshold for packet errors in the short observation window is stored in register 540 and is also provided to comparator 530. If comparator 530 indicates that the number of NACK messages is greater than or equal to the threshold for packet errors in the short observation window, controller 570 increases the power level of the transmission and resets packet counter 580 and the string of delays.
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> *Arvelo*, col. 8, lines 22-32.

As stated, the "adder 510 counts the number of NACK messages" and "provides the number of packet errors to comparator 530." Then, "[i]f comparator 530 indicates that the number of NACK messages is greater than or equal to the threshold for packet errors . . . controller 570 increases the power level of the transmission and resets packet counter 580 and the string of delays." (Id.) However, this still fail to teach or suggest at least "transmitting a first negative acknowledgement message for a last installment of a first subpacket, the first negative acknowledgement transmitted at a first time slot" and "transmitting a second negative acknowledgement message for the last installment of the first subpacket, the second negative acknowledgement transmitted at a second time slot, wherein the second time slot is designated for the first subpacket of the next packet," as recited in claim 16.

The cited portions of Lee fail to cure the deficiencies of Arvelo. Relating to claim 16, it appears that Lee was relied upon by the Office Action concerning "wherein the second number is less than the first number, wherein the second number is selected to satisfy the designated packet error rate; and terminating transmission of the first subpacket of data after the second number of installments." However, this subject matter does not appear to derive from claim 16 as presented herein and Lee therefore should not be applied as such.

Thus, Arvelo and Lee, individually or in combination, fail to teach or suggest all of the limitations of claim 16. Accordingly, it is submitted that the rejection of claim 16 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Claim 17 depends from claim 16. Accordingly, it is submitted that the rejection of claim 17 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Claims 18 and 20 include subject matter similar to the subject matter of claim 16. Accordingly, it is submitted that the rejection of claims 18 and 20 based upon 35 U.S.C. §103(a) has been overcome at least the same reasons as those presented above in connection with claim 16, and withdrawal thereof is respectfully requested.

II.   Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 5-7 and 12-14 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Based on the foregoing, Applicants submit that claims 1 and 8 should be allowable over the cited references. Since claims 5-7 and 12-14 depend respectively from claims 1 and 8, claims 5-7 and 12-14 should accordingly be allowable in present form over the cited references.

CONCLUSION

In view of the foregoing, Applicants respectfully submit that all pending claims in the present application are in a condition for allowance, which is earnestly solicited. Should any issues remain unresolved, the Examiner is cordially invited to contact the undersigned at the number provided below.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: March 9, 2009   By: _____

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